

Local Travel Network

Big Idea About Going Small

SBCCOG Board of Directors

February 25, 2021



Origins

LTN in development for 18 years. Not copied from elsewhere, originated in the South Bay based on data from studies and pilot projects:

- SBCCOG Household surveys
- SBCCOG Demonstrations – NEV and BEV
- Carbon impacts in SBCCOG LUTCAP
- Cambridge Systematics
- Metro – Concept plan by Civic Projects
- Caltrans – Implementation plan for refined route (Fehr and Peers)

What We Learned: Time to Go Small

South Bay travel is extremely local -- dominated by short trips

- 70% of trips are 3 miles or less; 88% are 10 miles or less
- 64% of the total trips originating in the SB terminate in the SB; averaging 7 minutes each in travel time per Metro South Bay Matrix, 2015
- Only 9% of the trips originating in the South Bay terminate outside of the 25 mile radius
- 28 percent of car trips are a mile or less – nationally

Automobiles are expensive and inefficient

- Estimate \$9,000 cost annually
- South Bay households collectively pay over \$1.5 billion annually for gasoline.
- Autos are parked 95 % of the time.
- Autos take up a lot of space and on average carry only driver and one-half a passenger

Residential density is being increased by the state – all will be auto dependent -- micro-devices will help manage more congestion, parking demand, GHG emissions, air pollutants

Change #1 Gas to Electric

- The traditional gas-fueled passenger car designed to be all-purpose, go anywhere vehicle is being transitioned to zero emission electric – led by Federal and State government initiative, recently joined by auto industry
- Problem -- battery electric vehicle technology lacks the range and society lacks the fueling options to replicate performance of internal combustion vehicle technology
- BEVs are specialized in mid-range trips

Change #2 Macro to Micro

Macro-mobility refers to the traditional gas-fueled passenger car that is designed to be all-purpose, go anywhere vehicle

ZE Micro-mobility refers to a range of devices specialized in short distances, that are small, lightweight operating at speeds typically below 25 mph. Micro-mobility devices include bicycles, e-bikes, e-scooters, electric skateboards, and golf cart-NEVs

Change #3 Vehicle Automation

- Robo-Cabs – Passenger; 8 person shuttles
- Wide scale deployment easily by 2025;
- Micro-mobility will be a necessary complement; will never be enough AVs for all the short trips
- Micro Robot Delivery Devices – Freight to Home
- Experiment occurring right now in San Pedro – NURO
- LTN will provide infrastructure for delivery robots

Micro Markets are Heating-Up Time to Prepare

- COVID quarantine has made staying close to home more desirable
- In July, [e-bike sales](#) in Manhattan Beach were up 918%, and more than 800% in Hermosa Beach, compared to the same period in 2019. (Shared Use Mobility Center, No: 1/31/2021)
- Anecdote – NEV dealer has pre-sold every delivery
- Global market is growing -- 54% 2019-20 with 4 million units (before COVID)
- Don't wait for the residents who own micro-devices to complain about safety and parking. They will expect parking accommodations when driving an e-trike just as if it was an SUV.

Earth is Heating-Up - Climate Crisis

- 7% per year reduction in carbon emissions by 2030 or conditions that nurtured biological and social evolution will no longer exist
 - Glaciers will disappear entirely and will not return until the next ice age
 - Consequences happening NOW; Texas freeze, western states 12-month fire “season,” Australia’s Black Summer of 2019, most ever Category 5 Atlantic hurricanes in 2020
- Global shutdown produced only 6% GHG emissions reduction
- Note – burning fossil fuels creates air pollution resulting in respiratory disease and compromised immune systems which increase vulnerability to COVID- Southern California does not meet Federal Air Quality Standards

Micro Devices are Necessary for Addressing Climate: Time to Prepare

- Federal and State policies are requiring ZE macro replace ICE macro – but it's not going well
- ZE Macro are expensive and even state rebates are not resulting in target numbers
- Proposed Federal legislation will offer tax credit for micro devices
- Micro Devices are currently 50% to 90% less expensive than macro vehicles

What is Micro-Mobility?



Vehicle Types
E-Bike
Folding Bicycles
Compact Bicycles
Cargo E-Bikes
Hydrogen Bike
E-Trike
Recumbent E-Trikes
E-Skateboard
Portable Scooters
Seated Scooters
E-Push Scooter
NEVs
Horizontal 2 Wheelers
Hands Free Horizontal 2 Wheelers
Power Shoes
Wheelchair NEV
E-Unicycle

LUVs: Fun plus
Seven Ss and one A

Short range

Slow speed

Small

Safe

Silent

Sustainable

Second car

Affordable (purchase
and maintain)

Mobility changes require infrastructure changes

ICE to EV

- Example – changing macro ICE vehicles to macro electric drive makes gas stations obsolete and requires a new electric charging infrastructure

Macro autos to micro devices

- Streets are designed for macro-mobility vehicles in great volumes at fast speeds – incompatible with micro-mobility devices
- The LTN addresses that imbalance
- The LTN will instantly reward most residents by creating safe mobility options which dramatically reduce mobility costs

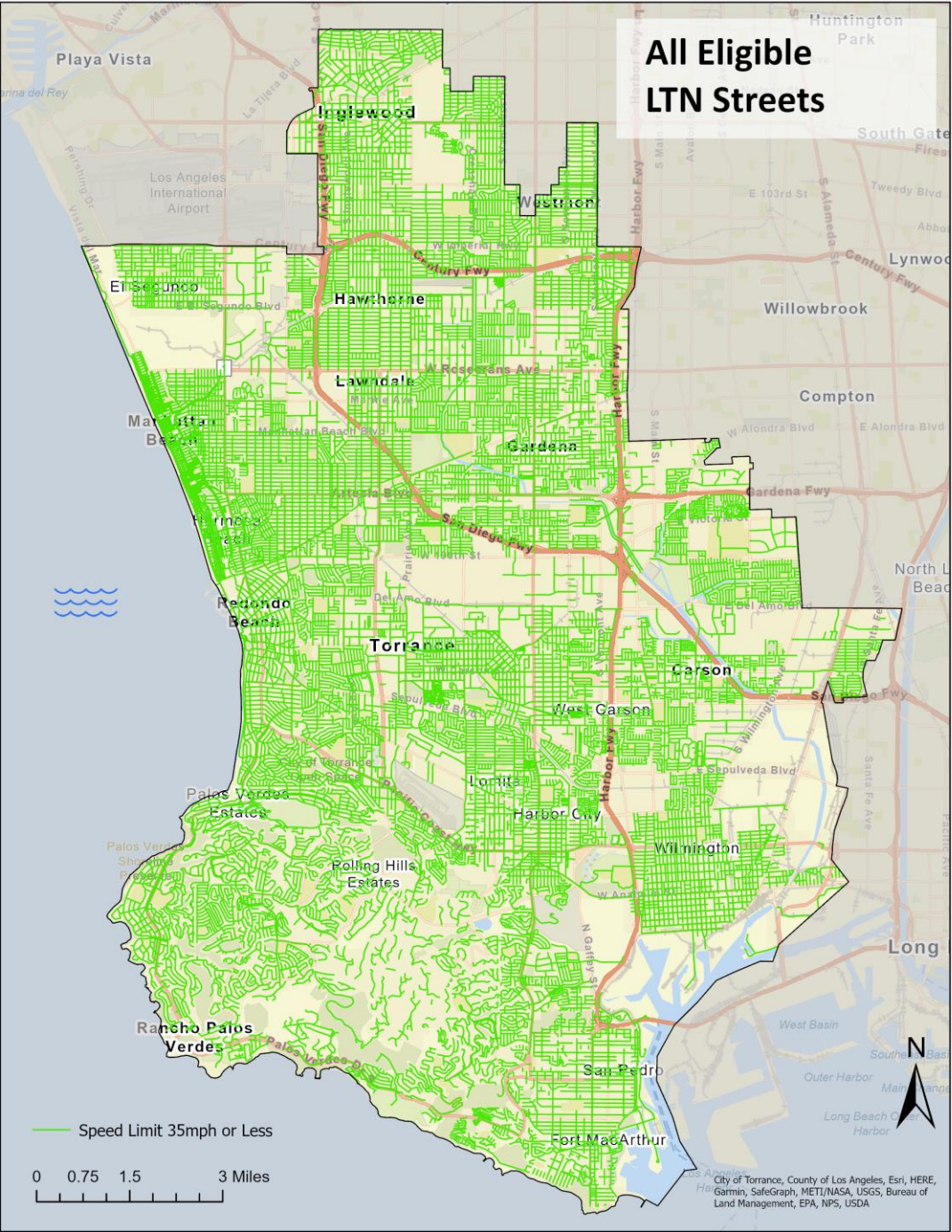
Local Travel Network

- *A 243-mile route-network overlayed on the South Bay's 2,000 miles of streets in order to provide safe and efficient paths for residents to reach frequent destinations*
- *The LTN will expand the mobility options for South Bay residents to include some form of micro-mobility device. Those devices are zero-emission, small and specialized in taking short trips traveling at speeds that do not exceed 25MPH; they include pedal cycles, e-bikes, self-balancing scooters, e-scooters, and neighborhood electric vehicles/golf carts*
- *Automobiles will share the roadway with micro-devices on the LTN without dedicated lanes*

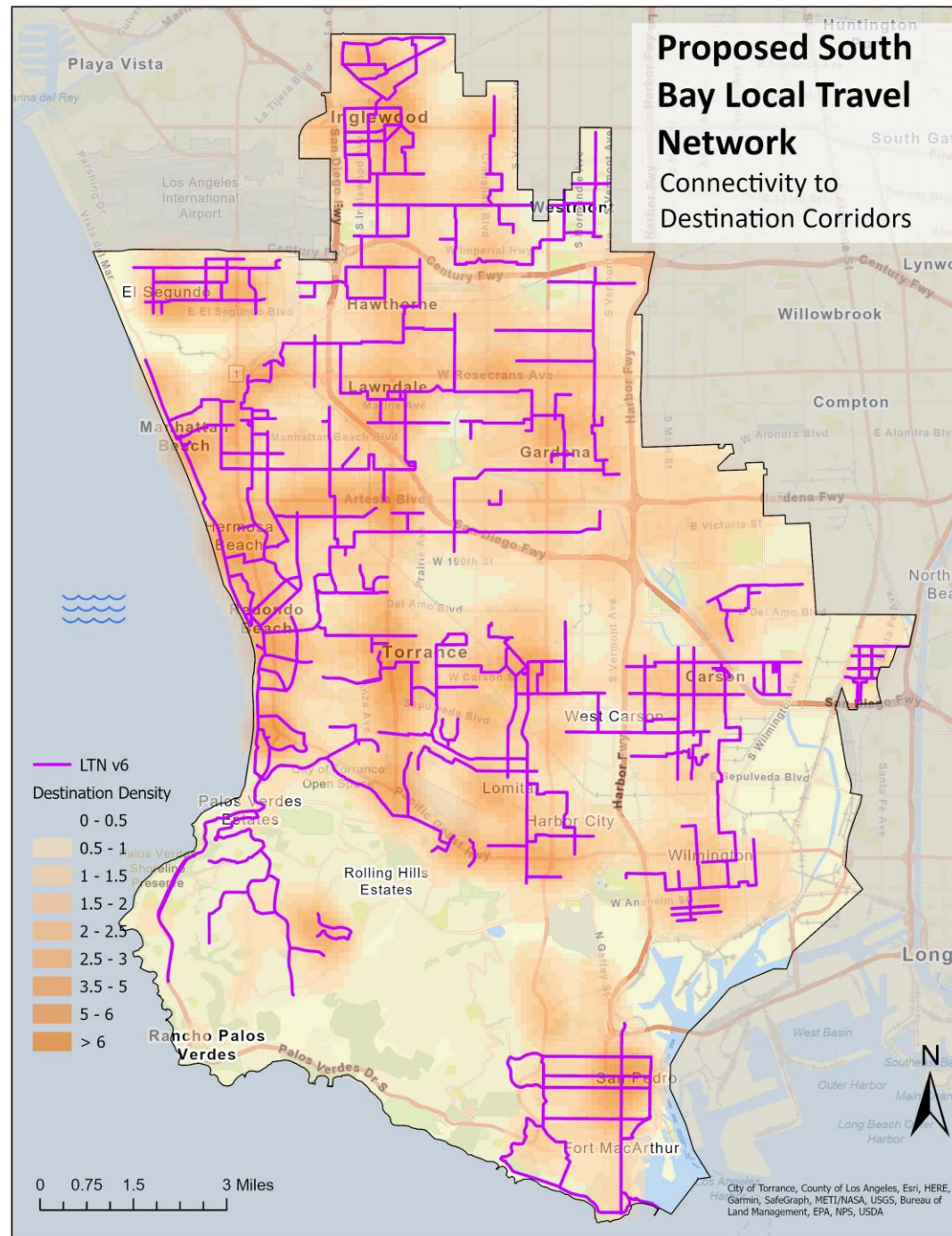
LTN Characteristics

- Designed using criteria that included posted speed 25MPH, low volume, convenient crossings at high speed intersections, minimal stop signs
- Serves South Bay residents and overnight visitors
- Inexpensive to deploy
- Flexible, easy to change
- Safe – speed kills
- Relieves congestion – today 80% of traffic is carried by 20 percent of the road mileage (20% = 400 miles of streets; 10 major arterials in each direction)

**All Eligible
LTN Streets**



Connectivity to Destination Corridors



What this is
and is not

Is NOT

- Rentals
- Dockless
- Dedicated ROW
- Road Diet

IS

- Owned
- Parked - owner is responsible
- Shared existing streets
- Vehicle Diet

Micro Local Benefits

- Allows restaurants and retailers to use parking areas without losing capacity – small vehicles require less space
- Provides residents and overnight visitors with a special, uncongested path around the SB
- Reduces congestion on the 200 miles of major arterials that connect to the I405 and I105 – making it easier to get to and from freeway when necessary
- Reduces cost of mobility for residents – helps recover from COVID losses and means a higher percentage of income available for housing or other expenses
- Increases safety on the streets as average speed drops
- *Final mile freight delivery can be automated*, reducing congestion and cost

Micro Profit Potential

- Use the micro-mobility initiative to develop a “green economy” that will provide jobs for locals, attract talent, lead to sales and hotel tax revenue
 - Analyze the supply chain opportunities – design retail, wholesale, distribution, assembly, parts manufacturer. These are relatively simple devices -- focus on 3D printing
 - Attract innovators/start-ups
 - Alert economic development team to identify building space that would attract many supply chain components
- Obtain competitive advantage as early mover; develop capacity for import substitution

City Initiative: Invest in zero emission “micro- mobility”

Adopt Policies that will support zero emission micro-mobility devices in ways that today's policies support the large, gasoline fueled vehicles that define macro mobility

- Implement the South Bay Local Travel Network
- Safe and Secure Parking:
 - Provide for customers arriving in commercial centers to accommodate those who travel in some micro-mobility device
 - Provide preferential parking in areas of high demand, such as an agreement with County Parks for beach parking
- Charging Facilities:
 - Facilitate requests to upgrade multi-unit residential electric system changes for charging
 - Deploy public level 1 charging opportunities in all places where micro-devices will dwell
- Make micro-mobility an economic development strategy
- Convert as much of city fleet as possible to a mix zero emission micro-mobility devices

Community Engagement and Education

- Map Making (Design and Refinement)
- Community Engagement and Education

“Right-Sizing” Vehicles for Local Trips



Community Engagement and Education

- COVID-19 Challenges
- Story Map: <https://arcg.is/PHL9C0>

Next Steps

- Add PPT and Story Map to SBCCOG website – March cities link to it
- Add final report to SBCCOG Site – April 1
- Present to IWG and Comm Dev. Directors – April
- May 27 Board meeting – action item: discuss and approve LTN as SBCCOG Strategy
- Individual cities begin to implement with SBCCOG support - M funding possible